

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claim 1-15 and 23-26 are now present in this application. Claims 1, 8, 10, 12 and 23 are independent. By this Amendment, claims 1, 8, 10, 12 and 23 are amended to correct an obvious typographical error. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Entry of Amendments

Applicants respectfully submit that it is proper to enter the claim amendments because they merely correct an inadvertent typographical error to make the independent claims clear, definite, and consistent with the remarks presented in the last Amendment and in this Amendment.

Rejections Under 35 U.S.C. § 103

Claims 1-6, 24 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 3,544,518 to Bodkins et al. ("Bodkins") in view of U.S. Patent 6,419,476 to Ouellette and further in view of U.S. Patent 6,422,857 to Wright et al., ("Wright"). Similarly, claim 8 and claims 12-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bodkins in view of Ouellette and further in view of Wright. These rejections are respectfully traversed.

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Because the rejection is based on 35 U.S.C. §103, what is in issue in such a rejection is "the invention as a whole, "not just a few features of the claimed invention. Under 35 U.S.C. §103, " [a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter *as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under §103 is whether the claimed invention *as a whole* would have been obvious to a person of ordinary skill in the art at the time the invention was made. *See In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. *See Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 U.S.C. §103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in *Graham v John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *See Uniroyal Inc. v. F-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 825 (1988); *Ashland*

Oil, Inc. v Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986); *ACS Hospital Systems, Inc. v Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. *See In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." *See C.R. Bard, Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." *See In re Dembiczak*, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Moreover, it is well settled that the Office must provide objective evidence of the basis used in a prior art rejection. A factual inquiry whether to modify a reference must be

based on objective evidence of record, not merely conclusory statements of the Examiner.

See In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Furthermore, during patent examination, the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the Applicant is entitled to the patent. Only when a *prima facie* case is made, the burden shifts to the applicant to come forward to rebut such a case.

The Office Action assumes that Bodkins insulating material 3, 3' reduces a flow resistance between inner walls and the fluid so as to accelerate the flow of the fluid injected into the injection mold.

However, Applicants respectfully disagree. Although the insulating material 3, 3' may provide insulation, there is no explicit or inherent (i.e., necessarily discloses) teaching or suggestion of "reducing a flow resistance between the inner walls and the fluid so as to accelerate flow of the fluid injected into the injection mold."

While Bodkins' insulating material 3, 3' may increase the insulation of the fluid (such as polymer 1) that fills the mold halves 2, 2', but this does **NOT** necessarily mean that the fluid flow resistance is reduced such that its flow is accelerated. In this regard, Applicants respectfully submit that one of ordinary skill in the art understands that if the thickness of the insulating material 3, 3' is too thin or due to the particular characteristics of the insulating material itself, the fluid flow resistance may even be increased such that the fluid flow is actually decelerated.

In contrast, Applicant's claimed invention requires a "flow accelerating material means" that exhibits **both** the characteristics "for increasing insulation of the fluid" **and** "reducing flow resistance between the inner walls and the fluid so as to accelerate flow of the fluid injected into the injection mold," as per Applicant's pending independent claim 1 (and pending independent claims 8, 10, 12 and 23, which contain similar wording). As a result, "molten plastic can be introduced even to corner portions of the molding space," a superior molded product can be formed, and the overall injection molding processing can be improved (see Applicant's specification at [0083] through [0095]).

The two secondary references applied in this rejection, i.e., Ouellette and Wright, fail to specifically take into consideration flow characteristics, such as, for example, flow resistance, occurring between the fluid and the injection mold. These additional references do not overcome the aforementioned deficiencies of **Bodkins** and thus fail to teach or suggest a "flow accelerating material means" that exhibits **both** the characteristics "for increasing insulation of the fluid" **and** "reducing flow resistance between the inner walls and the fluid so as to accelerate flow of the fluid injected into the injection mold," as per Applicant's pending independent claims.

Additionally, the Office Action asserts that **Wright** teaches "an insulated gate which extends through the fixed mold" (see Office Action p. 34). Applicants respectfully disagree with this position and submit that, as can be seen by inspecting Fig. 1 of **Wright**, the injection gate 26 (as the term "gate" denotes) is merely the entrance opening of the cavity 16, and thus does not and **cannot** "extend through" the cavity 16.

Even if the injection "gate" 26 of **Wright** would somehow be interpreted as to "extend

through" the cavity 16, Applicants respectfully submit that a nozzle 12 is located near the injection gate 26 with an insert 30 therebetween. This insert 30 insulates the injection gate 26 because only the leading face 44 of the nozzle 12 is in contact with the insert 30.

As such, **Wright** actually teaches away from Applicant's claimed invention, because the very presence of the insert 30 located between the nozzle 12 and the injection cavity 16 precludes the need for any insulation coating to be formed on the surfaces of the injection gate 26. In this regard, Applicants respectfully submit that, to establish a *prima facie* case of obviousness, one must show "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837 F.2d 1071 at 1074, 5 USPQ2d at 1598. There is no suggestion to combine, however, if a reference teaches away from its combination with another source. *See id.* at 1075, 5 USPQ2d at 1599. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant . . . [or] if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994).

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention based on **Bodkins**, **Ouellette** and **Wright** (alone or in any combination) because those references do not teach, suggest, or otherwise render obvious "a flow accelerating material means provided on the inner walls of the passage," as per Applicant's pending

independent claims.

Thus, reconsideration and withdrawal of these rejections of claims 1-6, 8, 12-15, 24 and 26 are respectfully requested.

Claims 1-7, 24-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,255,109 to Yotsutsuji et al. ("Yotsutsuji") in view of Ouellette and further in view of Wright. Similarly, claim 8-9, claims 10-11, and claims 12 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsutsuji in view of Ouellette and further in view of Wright. These rejections are respectfully traversed.

Yotsutsuji admittedly does not disclose a fixed mold having a passage extending through the mold, the passage having inner walls for injecting a fluid therethrough and into an internal space and a flow accelerating material means provided on the inner walls of the passage, as claimed. Yotsutsuji's passage 47-49, for example, is disclosed as having no coating whatsoever, let alone a flow accelerating coating.

In an attempt to remedy this deficiency, the Office Action turns to Ouellette. However, as noted above, Ouellette, which discloses an inlet mold with a passage 130 therethrough, the passage 130 having no flow accelerating material thereon. Instead of providing a flow accelerating material on fixed mold passage 130's inner walls, Ouellette simply provides polymer bars 116 and 118 in the internal space of the mold. In other words, there is no disclosure in Ouellette of coating the internal passages of inlet mold member 104 with a flow

accelerating material. Ouellette merely discloses insulating the interior mold space using polymer bars 116 and 118.

In other words, neither Yotsutsuji nor Ouellette discloses the positively recited feature of a fixed mold having a passage extending through the mold, the passage having an inner wall for injecting a fluid therethrough and an internal space and a flow accelerating material means provided on the inner walls of the passage.

Thus, no matter how these two references are combined, they will not disclose, suggest, or otherwise render obvious the claimed invention.

Accordingly, reconsideration and withdrawal of this rejection of claims 1-12, 15 and 24-26 under 35 U.S.C. § 103(a) as being unpatentable over Yotsutsuji in view of Ouellette are respectfully requested.

Claims 1-3, 5, 24 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,201,742 to Hendry in view of Ouellette and further in view of Wright. Also, claims 12-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,201,742 to Hendry in view of Ouellette and further in view of Henry (sic: Wright). These rejections are respectively traversed.

Hendry relates to heating and cooling the skin of the mold cavity to achieve injection molding plastic products with improved surface finish. Heating is performed by injecting a condensing vapor into the mold cavity, while cooling is performed by passing cooling fluid through interior sections of the mold.

Hendry uses Teflon to coat its mold faces but does not characterize it explicitly as a fluid flow accelerating means, and the Office Action does not provide objective factual evidence that it is inherently, i.e., necessarily, a fluid flow accelerating means, and Hendry admittedly does not disclose using the Teflon coating that is provided on the inner space of the mold on the walls of the mold passage 22.

In an attempt to remedy this deficiency, the Office Action turns to Ouellette. However, as noted above, Ouellette, which discloses an inlet mold with a passage 130 therethrough, the passage 130 having no flow accelerating material thereon. Instead of providing a flow accelerating material on fixed mold passage 130's inner walls, Ouellette simply provides polymer bars 116 and 118 in the internal space of the mold. In other words, there is no disclosure in Ouellette of coating the internal passages of inlet mold member 104 with a flow accelerating material. Ouellette merely discloses insulating the interior mold space using polymer bars 116 and 118.

In other words, neither Hendry nor Ouellette discloses the positively recited feature of a fixed mold having a passage extending through the mold, the passage having an inner wall for injecting a fluid therethrough and an internal space and a flow accelerating material means provided on the inner walls of the passage.

Thus, no matter how these two references are combined, they will not disclose, suggest, or otherwise render obvious the claimed invention.

The Office Action then turns to Wright to teach, along with Ouellette, structural elements which preserve the resin temperature through any passage through which the resin flows.

Applicants respectfully disagree with this characterization of these two references for reasons presented above regarding Ouellette and for reasons presented above regarding the traversal of the rejection based on Bodkins, Ouellette and Wright, which presented, as follows:

The two secondary references applied in this rejection, i.e., Ouellette and Wright, fail to specifically take into consideration flow characteristics, such as, for example, flow resistance, occurring between the fluid and the injection mold. These additional references do not overcome the aforementioned deficiencies of Hendry and thus fail to teach or suggest a “flow accelerating material means” that exhibits both the characteristics “for increasing insulation of the fluid” and “reducing flow resistance between the inner walls and the fluid so as to accelerate flow of the fluid injected into the injection mold,” as per Applicant’s pending independent claims.

Accordingly, reconsideration and withdrawal of this rejection of claims 1-3, 5, 12-15, 24 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Hendry in view of Ouellette and further in view of Wright are respectfully requested.

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,362,226 to Kataoka, et al. (“Kataoka”) in view of Ouellette and further in view of Wright. Similarly, claim 8 and claims 12 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kataoka in view of Ouellette and further in view of Wright. These rejections are respectfully traversed.

Kataoka relates to plating the cavity wall of the mold body with chromium and/or nickel, and then coating a thin layer of synthetic resin (polyimide), which result in the desired molded

articles to be formed.

Kataoka admittedly does not disclose using a flow accelerating means provided on the inner space of a mold passage or a passage extending through the mold. Instead, the coating 4 is only applied inside the mold cavity on one wall.

In an attempt to remedy this deficiency, the Office Action turns to Ouellette. However, as noted above, Ouellette, which discloses an inlet mold with a passage 130 therethrough, the passage 130 having no flow accelerating material thereon. Instead of providing a flow accelerating material on fixed mold passage 130's inner walls, Ouellette simply provides polymer bars 116 and 118 in the internal space of the mold. In other words, there is no disclosure in Ouellette of coating the internal passages of inlet mold member 104 with a flow accelerating material. Ouellette merely discloses insulating the interior mold space using polymer bars 116 and 118.

In other words, neither Kataoka nor Ouellette discloses the positively recited feature of a fixed mold having a passage extending through the mold, the passage having an inner wall for injecting a fluid therethrough and an internal space and a flow accelerating material means provided on the inner walls of the passage.

Thus, no matter how these two references are combined, they will not disclose, suggest, or otherwise render obvious the claimed invention.

The Office Action then turns to Wright.

Wright, like Ouellette, fails to specifically take into consideration flow characteristics, such as, for example, flow resistance, occurring between the fluid and the injection mold. Neither

Wright nor Ouellette overcomes the aforementioned deficiencies of Kataoka and thus fail to teach or suggest a “flow accelerating material means” that exhibits **both** the characteristics “for increasing insulation of the fluid” **and** “reducing flow resistance between the inner walls and the fluid so as to accelerate flow of the fluid injected into the injection mold,” as per Applicant’s pending independent claims.

Additionally, the Office Action asserts that **Wright** teaches “an insulated gate which extends through the fixed mold.” Applicants respectfully disagree with this position and submit that, as can be seen by inspecting Fig. 1 of **Wright**, the injection gate 26 (as the term “gate” denotes) is merely the entrance opening of the cavity 16, and thus does not and **cannot** “extend through” the cavity 16.

Even if the injection “gate” 26 of **Wright** would somehow be interpreted as to “extend through” the cavity 16, Applicants respectfully submit that a nozzle 12 is located near the injection gate 26 with an insert 30 therebetween. This insert 30 insulates the injection gate 26 because only the leading face 44 of the nozzle 12 is in contact with the insert 30.

As such, **Wright** actually **teaches away** from Applicant’s claimed invention, because the very presence of the insert 30 located between the nozzle 12 and the injection cavity 16 precludes the need for any insulation coating to be formed on the surfaces of the injection gate 26.

Thus, one of ordinary skill in the art would have no proper incentive to modify Kataoka, as suggested.

Accordingly, reconsideration and withdrawal of this rejection of claims 1-3, 8, 12 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Kataoka in view of Ouellette and further in view of Wright are respectfully requested.

Continued Failure to comply with MPEP §§ 706.02(I) and 904.03

MPEP §§ 706.02(I) and 904.03 clearly require the Examiner to select and apply only the best reference in rejecting the pending claims. The outstanding Office Action does not do this, however. Instead, it cites and applies, individually, four different references, all under the same statute, i.e., 37 C.F.R. §§ 102(b)/103(a), to claims 1-3.

This is improper and for this reason alone, at least three of the outstanding rejections of claims 1-3 based on 35 U.S.C. §§ 102(b)/103(a) should be withdrawn.

The Office Action fails to respond to this argument, in direct contravention of the requirement to respond to the merits of Applicants' arguments, which is found in MPEP §707.07(f).

Because of this, this rejection violates two separate requirements of the MPEP and must be withdrawn.

Applicants also note that this Office Action, with multiple different grounds of rejections based on different references with respect to the same claims puts Applicants at a decided disadvantage if the Examiner decides not to accept Applicants' arguments traversing the many multiplicitous rejections of claims 1-3, 8, 12 and 15 and Applicants file a Request for a Pre-Appeal Brief Conference. Such requests are limited to five pages. It is

almost impossible to address all of the outstanding improperly multiplicitous rejections of the same claims in a five page document.

In this regard, should the Examiner decide not to allow pending claims 1-3, 8, 12 and 15, the Examiner is respectfully requested to only maintain one set of rejections of these claims so that Applicants can address the rejection of those claims in a five page request for a pre-appeal brief conference.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, all pending claims should be allowed.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Date: September 29, 2008

Respectfully Submitted,

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